ABSTRACT OF THE DISCLOSURE

An inter-processor communication apparatus of a mobile communication system includes: a data-FIFO for storing a receiving data; a slave-logic for controlling a writing operation of the data-FIFO and counting the length of the receiving data until an end-tap signal is inputted; a length-FIFO for storing the data length counted by the slave-logic; and a CPU for continuously reading the data stored in the data-FIFO as much as the data read from the length-FIFO when an interrupt signal is inputted from the slave-logic. Since the data length value is applied to the CPU to read continuously the one frame data, the load of the CPU is reduced and the data processing speed is improved. Furthermore, the performance of the inter-processor communication apparatus can be accordingly enhanced.